CLAIMS

I claim:

1. A contact pin assembly for an exhaust gas sensor having a sensor element, the contact pin assembly comprising:

a first portion configured to be electrically connected to the sensor element when the contact pin assembly is installed in the exhaust gas sensor; and

a second portion configured to be connected to the first portion in either of a first configuration, wherein the contact pin assembly has a first overall length, and a second configuration, wherein the contact pin assembly has a second overall length less than the first overall length.

2. The contact pin assembly of claim 1, wherein the second portion is configured to be connected to the first portion in more than two configurations.

3. The contact pin assembly of claim 1, wherein the first and second portions are configured to be positioned in telescoping relation with respect to one another.

4. The contact pin assembly of claim 1, wherein the first and second portions are slidably movable with respect to one another between the first configuration and the second configuration.

5. The contact pin assembly of claim 1, wherein the first portion includes a base configured to engage the sensor element and a stem extending from the base, and wherein the second portion defines a tube configured to be received over at least a portion of the stem.

6. The contact pin assembly of claim 5, wherein the second portion further includes an insert having a first end received in the tube and a second end extending from the tube and being threaded to receive a spark-plug type post terminal.

7. The contact pin assembly of claim 1, wherein the first portion includes a base configured to engage the sensor element and at least a partially hollow stem extending from the base, and wherein the second portion is at least partially received inside the hollow stem.

8. The contact pin assembly of claim 7, wherein the second portion defines a tube that is at least partially received inside the hollow stem.

9. The contact pin assembly of claim 7, wherein the second portion defines a solid rod having a first end received inside the hollow stem and a threaded second end to receive a spark-plug type post terminal.

10. The contact pin assembly of claim 1, wherein the first portion includes an aperture sized to receive a heater.

11. The contact pin assembly of claim 1, wherein at least one of the first portion and the second portion includes a locating feature configured to locate the second portion relative to the first portion.

12. The contact pin assembly of claim 1, wherein the first and second portions are secured together by one of welding, brazing, crimping, and adhesives.

13. An exhaust gas sensor comprising:

a sensor element configured to communicate with an exhaust gas of an internal combustion engine; and

a contact pin assembly electrically connected to the sensor element, the contact pin assembly including

a first portion configured to engage the sensor element; and

a second portion configured to be connected to the first portion in either of a first configuration, wherein the contact pin assembly has a first overall length, and a second configuration, wherein the contact pin assembly has a second overall length less than the first overall length;

wherein the second portion is selectively connected to the first portion in the first configuration or the second configuration depending on a length of the exhaust gas sensor.

14. The exhaust gas sensor of claim 13, wherein the second portion is configured to be connected to the first portion in more than two configurations.

15. The exhaust gas sensor of claim 13, wherein the first and second portions are configured to be positioned in telescoping relation with respect to one another.

16. The exhaust gas sensor of claim 13, wherein the first portion includes a base configured to engage the sensor element and a stem extending from the base, and wherein the second portion defines a tube configured to be received over at least a portion of the stem.

17. The exhaust gas sensor of claim 16, further comprising an insert having a first end received by the tube and a threaded second end to receive a spark-plug type post terminal.

18. The exhaust gas sensor of claim 14, wherein the first portion includes a base configured to engage the sensor element and a hollow stem extending from the base, and wherein the second portion is at least partially received inside the hollow stem.

19. The exhaust gas sensor of claim 18, wherein the second portion defines a solid rod having a first end received inside the hollow stem and a threaded second end to receive a spark-plug type post terminal.

20. A method of assembling an exhaust gas sensor having a sensor element and a contact pin assembly electrically connected to the sensor element, the contact pin assembly having a first portion configured to engage the sensor element and a second portion configured to be connected to the first portion in either of a first configuration, wherein the contact pin assembly has a first overall length, and a second configuration, wherein the contact pin assembly has a second overall length, the method comprising;

determining a length of the exhaust gas sensor;

connecting the second portion to the first portion in one of the first and second configurations depending on the length of the exhaust gas sensor; and

after connecting the second portion to the first portion, installing the contact pin assembly in the exhaust gas sensor.

21. The method of claim 20, wherein connecting the second portion to the first portion includes placing the second portion and first portion in telescoping relation and securing the second portion and the first portion together in one of the first and second configurations.

22. The method of claim 20, wherein connecting the second portion to the first portion includes sliding the first and second portions relative to one another and securing the first and second portions together in one of the first and second configurations.